

SEQUENCE LISTING

<110> SUZUKI, Toshiharu et al.

<120> MARKER PEPTIDE FOR ALZHEIMER'S DISEASE

<130> 3749-0112PUS1

<140> US 10/577,008

<141> 2006-04-25

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<151> 2004-11-01

<150> JP 2003/375363

<151> 2003-11-05

<160> 17

<170> PatentIn version 3.5

<210> 1

<211> 971

<212> PRT

<213> human

<400> 1

Met Leu Arg Arg Pro Ala Pro Ala Leu Ala Pro Ala Ala Arg Leu Leu
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Leu Ala Gly Leu Leu Cys Gly Gly Gly Val Trp Ala Ala Arg Val Asn
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Lys His Lys Pro Trp Leu Glu Pro Thr Tyr His Gly Ile Val Thr Glu
35 40 45

Asn Asp Asn Thr Val Leu Leu Asp Pro Pro Leu Ile Ala Leu Asp Lys
50 55 60

Asp Ala Pro Leu Arg Phe Ala Gly Glu Ile Cys Gly Phe Lys Ile His
65 70 75 80

Gly Gln Asn Val Pro Phe Asp Ala Val Val Val Asp Lys Ser Thr Gly
85 90 95

Glu Gly Val Ile Arg Ser Lys Glu Lys Leu Asp Cys Glu Leu Gln Lys
100 105 110

Asp Tyr Ser Phe Thr Ile Gln Ala Tyr Asp Cys Gly Lys Gly Pro Asp

115	120	125
Gly Thr Asn Val Lys Lys Ser His Lys Ala Thr Val His Ile Gln Val 130 135 140		
Asn Asp Val Asn Glu Tyr Ala Pro Val Phe Lys Glu Lys Ser Tyr Lys 145 150 155 160		
Ala Thr Val Ile Glu Gly Lys Gln Tyr Asp Ser Ile Leu Arg Val Glu 165 170 175		
Ala Val Asp Ala Asp Cys Ser Pro Gln Phe Ser Gln Ile Cys Ser Tyr 180 185 190		
Glu Ile Ile Thr Pro Asp Val Pro Phe Thr Val Asp Lys Asp Gly Tyr 195 200 205		
Ile Lys Asn Thr Glu Lys Leu Asn Tyr Gly Lys Glu His Gln Tyr Lys 210 215 220		
Leu Thr Val Thr Ala Tyr Asp Cys Gly Lys Lys Arg Ala Thr Glu Asp 225 230 235 240		
Val Leu Val Lys Ile Ser Ile Lys Pro Thr Cys Thr Pro Gly Trp Gln 245 250 255		
Gly Trp Asn Asn Arg Ile Glu Tyr Glu Pro Gly Thr Gly Ala Leu Ala 260 265 270		
Val Phe Pro Asn Ile His Leu Glu Thr Cys Asp Glu Pro Val Ala Ser 275 280 285		
Val Gln Ala Thr Val Glu Leu Glu Thr Ser His Ile Gly Lys Gly Cys 290 295 300		
Asp Arg Asp Thr Tyr Ser Glu Lys Ser Leu His Arg Leu Cys Gly Ala 305 310 315 320		
Ala Ala Gly Thr Ala Glu Leu Leu Pro Ser Pro Ser Gly Ser Leu Asn 325 330 335		
Trp Thr Met Gly Leu Pro Thr Asp Asn Gly His Asp Ser Asp Gln Val 340 345 350		

Phe Glu Phe Asn Gly Thr Gln Ala Val Arg Ile Pro Asp Gly Val Val
 355 360 365
 Ser Val Ser Pro Lys Glu Pro Phe Thr Ile Ser Val Trp Met Arg His
 370 375 380
 Gly Pro Phe Gly Arg Lys Lys Glu Thr Ile Leu Cys Ser Ser Asp Lys
 385 390 395 400
 Thr Asp Met Asn Arg His His Tyr Ser Leu Tyr Val His Gly Cys Arg
 405 410 415
 Leu Ile Phe Leu Phe Arg Gln Asp Pro Ser Glu Glu Lys Lys Tyr Arg
 420 425 430
 Pro Ala Glu Phe His Trp Lys Leu Asn Gln Val Cys Asp Glu Glu Trp
 435 440 445
 His His Tyr Val Leu Asn Val Glu Phe Pro Ser Val Thr Leu Tyr Val
 450 455 460
 Asp Gly Thr Ser His Glu Pro Phe Ser Val Thr Glu Asp Tyr Pro Leu
 465 470 475 480
 His Pro Ser Lys Ile Glu Thr Gln Leu Val Val Gly Ala Cys Trp Gln
 485 490 495
 Glu Phe Ser Gly Val Glu Asn Asp Asn Glu Thr Glu Pro Val Thr Val
 500 505 510
 Ala Ser Ala Gly Gly Asp Leu His Met Thr Gln Phe Phe Arg Gly Asn
 515 520 525
 Leu Ala Gly Leu Thr Leu Arg Ser Gly Lys Leu Ala Asp Lys Lys Val
 530 535 540
 Ile Asp Cys Leu Tyr Thr Cys Lys Glu Gly Leu Asp Leu Gln Val Leu
 545 550 555 560
 Glu Asp Ser Gly Arg Gly Val Gln Ile Gln Ala His Pro Ser Gln Leu
 565 570 575

Val Leu Thr Leu Glu Gly Glu Asp Leu Gly Glu Leu Asp Lys Ala Met
 580 585 590

Gln His Ile Ser Tyr Leu Asn Ser Arg Gln Phe Pro Thr Pro Gly Ile
 595 600 605

Arg Arg Leu Lys Ile Thr Ser Thr Ile Lys Cys Phe Asn Glu Ala Thr
 610 615 620

Cys Ile Ser Val Pro Pro Val Asp Gly Tyr Val Met Val Leu Gln Pro
 625 630 635 640

Glu Glu Pro Lys Ile Ser Leu Ser Gly Val His His Phe Ala Arg Ala
 645 650 655

Ala Ser Glu Phe Glu Ser Ser Glu Gly Val Phe Leu Phe Pro Glu Leu
 660 665 670

Arg Ile Ile Ser Thr Ile Thr Arg Glu Val Glu Pro Glu Gly Asp Gly
 675 680 685

Ala Glu Asp Pro Thr Val Gln Glu Ser Leu Val Ser Glu Glu Ile Val
 690 695 700

His Asp Leu Asp Thr Cys Glu Val Thr Val Glu Gly Glu Glu Leu Asn
 705 710 715 720

His Glu Gln Glu Ser Leu Glu Val Asp Met Ala Arg Leu Gln Gln Lys
 725 730 735

Gly Ile Glu Val Ser Ser Ser Glu Leu Gly Met Thr Phe Thr Gly Val
 740 745 750

Asp Thr Met Ala Ser Tyr Glu Glu Val Leu His Leu Leu Arg Tyr Arg
 755 760 765

Asn Trp His Ala Arg Ser Leu Leu Asp Arg Lys Phe Lys Leu Ile Cys
 770 775 780

Ser Glu Leu Asn Gly Arg Tyr Ile Ser Asn Glu Phe Lys Val Glu Val
 785 790 795 800

Asn Val Ile His Thr Ala Asn Pro Met Glu His Ala Asn His Met Ala
805 810 815

Ala Gln Pro Gln Phe Val His Pro Glu His Arg Ser Phe Val Asp Leu
820 825 830

Ser Gly His Asn Leu Ala Asn Pro His Pro Phe Ala Val Val Pro Ser
835 840 845

Thr Ala Thr Val Val Ile Val Val Cys Val Ser Phe Leu Val Phe Met
850 855 860

Ile Ile Leu Gly Val Phe Arg Ile Arg Ala Ala His Arg Arg Thr Met
865 870 875 880

Arg Asp Gln Asp Thr Gly Lys Glu Asn Glu Met Asp Trp Asp Asp Ser
885 890 895

Ala Leu Thr Ile Thr Val Asn Pro Met Glu Thr Tyr Glu Asp Gln His
900 905 910

Ser Ser Glu Glu Glu Glu Glu Glu Glu Glu Glu Ser Glu Asp
915 920 925

Gly Glu Glu Glu Asp Asp Ile Thr Ser Ala Glu Ser Glu Ser Ser Glu
930 935 940

Glu Glu Glu Gly Glu Gln Gly Asp Pro Gln Asn Ala Thr Arg Gln Gln
945 950 955 960

Gln Leu Glu Trp Asp Asp Ser Thr Leu Ser Tyr
965 970

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Val Glu Ala Leu Leu Thr Gly Ala Ser Ser Pro Leu Pro Gly Val Gly
20 25 30

Pro Ala Asn Lys His Lys Pro Trp Ile Glu Ala Glu Tyr Gln Gly Ile
 35 40 45
 Val Met Glu Asn Asp Asn Thr Val Leu Leu Asn Pro Pro Leu Phe Ala
 50 55 60
 Leu Asp Lys Asp Ala Pro Leu Arg Tyr Ala Gly Glu Ile Cys Gly Phe
 65 70 75 80
 Arg Leu His Gly Ser Gly Val Pro Phe Glu Ala Val Ile Leu Asp Lys
 85 90 95
 Ala Thr Gly Glu Gly Leu Ile Arg Ala Lys Glu Pro Val Asp Cys Glu
 100 105 110
 Ala Gln Lys Glu His Thr Phe Thr Ile Gln Ala Tyr Asp Cys Gly Glu
 115 120 125
 Gly Pro Asp Gly Ala Asn Thr Lys Lys Ser His Lys Ala Thr Val His
 130 135 140
 Val Arg Val Asn Asp Val Asn Glu Phe Ala Pro Val Phe Val Glu Arg
 145 150 155 160
 Leu Tyr Arg Ala Ala Val Thr Glu Gly Lys Leu Tyr Asp Arg Ile Leu
 165 170 175
 Arg Val Glu Ala Ile Asp Gly Asp Cys Ser Pro Gln Tyr Ser Gln Ile
 180 185 190
 Cys Tyr Tyr Glu Ile Leu Thr Pro Asn Thr Pro Phe Leu Ile Asp Asn
 195 200 205
 Asp Gly Asn Ile Glu Asn Thr Glu Lys Leu Gln Tyr Ser Gly Glu Arg
 210 215 220
 Leu Tyr Lys Phe Thr Val Thr Ala Tyr Asp Cys Gly Lys Lys Arg Ala
 225 230 235 240
 Ala Asp Asp Ala Glu Val Glu Ile Gln Val Lys Pro Thr Cys Lys Pro
 245 250 255

Ser Trp Gln Gly Trp Asn Lys Arg Ile Glu Tyr Ala Pro Gly Ala Gly
 260 265 270

Ser Leu Ala Leu Phe Pro Gly Ile Arg Leu Glu Thr Cys Asp Glu Pro
 275 280 285

Leu Trp Asn Ile Gln Ala Thr Ile Glu Leu Gln Thr Ser His Val Ala
 290 295 300

Lys Gly Cys Asp Arg Asp Asn Tyr Ser Glu Arg Ala Leu Arg Lys Leu
 305 310 315 320

Cys Gly Ala Ala Thr Gly Glu Val Asp Leu Leu Pro Met Pro Gly Pro
 325 330 335

Asn Ala Asn Trp Thr Ala Gly Leu Ser Val His Tyr Ser Gln Asp Ser
 340 345 350

Ser Leu Ile Tyr Trp Phe Asn Gly Thr Gln Ala Val Gln Val Pro Leu
 355 360 365

Gly Gly Pro Ser Gly Leu Gly Ser Gly Pro Gln Asp Ser Leu Ser Asp
 370 375 380

His Phe Thr Leu Ser Phe Trp Met Lys His Gly Val Thr Pro Asn Lys
 385 390 395 400

Gly Lys Lys Glu Glu Glu Thr Ile Val Cys Asn Thr Val Gln Asn Glu
 405 410 415

Asp Gly Phe Ser His Tyr Ser Leu Thr Val His Gly Cys Arg Ile Ala
 420 425 430

Phe Leu Tyr Trp Pro Leu Leu Glu Ser Ala Arg Pro Val Lys Phe Leu
 435 440 445

Trp Lys Leu Glu Gln Val Cys Asp Asp Glu Trp His His Tyr Ala Leu
 450 455 460

Asn Leu Glu Phe Pro Thr Val Thr Leu Tyr Thr Asp Gly Ile Ser Phe
 465 470 475 480

Asp Pro Ala Leu Ile His Asp Asn Gly Leu Ile His Pro Pro Arg Arg
 485 490 495

Glu Pro Ala Leu Met Ile Gly Ala Cys Trp Thr Glu Glu Lys Asn Lys
 500 505 510

Glu Lys Glu Lys Gly Asp Asn Ser Thr Asp Thr Thr Gln Gly Asp Pro
 515 520 525

Leu Ser Ile His His Tyr Phe His Gly Tyr Leu Ala Gly Phe Ser Val
 530 535 540

Arg Ser Gly Arg Leu Glu Ser Arg Glu Val Ile Glu Cys Leu Tyr Ala
 545 550 555 560

Cys Arg Glu Gly Leu Asp Tyr Arg Asp Phe Glu Ser Leu Gly Lys Gly
 565 570 575

Met Lys Val His Val Asn Pro Ser Gln Ser Leu Leu Thr Leu Glu Gly
 580 585 590

Asp Asp Val Glu Thr Phe Asn His Ala Leu Gln His Val Ala Tyr Met
 595 600 605

Asn Thr Leu Arg Phe Ala Thr Pro Gly Val Arg Pro Leu Arg Leu Thr
 610 615 620

Thr Ala Val Lys Cys Phe Ser Glu Glu Ser Cys Val Ser Ile Pro Glu
 625 630 635 640

Val Glu Gly Tyr Val Val Val Leu Gln Pro Asp Ala Pro Gln Ile Leu
 645 650 655

Leu Ser Gly Thr Ala His Phe Ala Arg Pro Ala Val Asp Phe Glu Gly
 660 665 670

Thr Asn Gly Val Pro Leu Phe Pro Asp Leu Gln Ile Thr Cys Ser Ile
 675 680 685

Ser His Gln Val Glu Ala Lys Lys Asp Glu Ser Trp Gln Gly Thr Val
 690 695 700

Thr Asp Thr Arg Met Ser Asp Glu Ile Val His Asn Leu Asp Gly Cys

705		710		715		720
Glu Ile Ser Leu Val Gly Asp Asp Leu Asp Pro Glu Arg Glu Ser Leu						
	725			730		735
Leu Leu Asp Thr Thr Ser Leu Gln Gln Arg Gly Leu Glu Leu Thr Asn						
	740		745			750
Thr Ser Ala Tyr Leu Thr Ile Ala Gly Val Glu Ser Ile Thr Val Tyr						
	755		760			765
Glu Glu Ile Leu Arg Gln Ala Arg Tyr Arg Leu Arg His Gly Ala Ala						
	770		775			780
Leu Tyr Thr Arg Lys Phe Arg Leu Ser Cys Ser Glu Met Asn Gly Arg						
	785		790		795	800
Tyr Ser Ser Asn Glu Phe Ile Val Glu Val Asn Val Leu His Ser Met						
	805		810			815
Asn Arg Val Ala His Pro Ser His Val Leu Ser Ser Gln Gln Phe Leu						
	820		825			830
His Arg Gly His Gln Pro Pro Pro Glu Met Ala Gly His Ser Leu Ala						
	835		840			845
Ser Ser His Arg Asn Ser Met Ile Pro Ser Ala Ala Thr Leu Ile Ile						
	850		855			860
Val Val Cys Val Gly Phe Leu Val Leu Met Val Val Leu Gly Leu Val						
	865		870		875	880
Arg Ile His Ser Leu His Arg Arg Val Ser Gly Ala Gly Gly Pro Pro						
	885		890			895
Gly Ala Ser Ser Asp Pro Lys Asp Pro Asp Leu Phe Trp Asp Asp Ser						
	900		905			910
Ala Leu Thr Ile Ile Val Asn Pro Met Glu Ser Tyr Gln Asn Arg Gln						
	915		920			925
Ser Cys Val Thr Gly Ala Val Gly Gly Gln Gln Glu Asp Glu Asp Ser						
	930		935			940

Ser Asp Ser Glu Val Ala Asp Ser Pro Ser Ser Asp Glu Arg Arg Ile
 945 950 955 960

Ile Glu Thr Pro Pro His Arg Tyr
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<210> 3
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<400> 3

Met Leu Pro Gly Arg Leu Cys Trp Val Pro Leu Leu Leu Ala Leu Gly
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Val Gly Ser Gly Ser Gly Gly Gly Gly Asp Ser Arg Gln Arg Arg Leu
 20 25 30

Leu Ala Ala Lys Val Asn Lys His Lys Pro Trp Ile Glu Thr Ser Tyr
 35 40 45

His Gly Val Ile Thr Glu Asn Asn Asp Thr Val Ile Leu Asp Pro Pro
 50 55 60

Leu Val Ala Leu Asp Lys Asp Ala Pro Val Pro Phe Ala Gly Glu Ile
 65 70 75 80

Cys Ala Phe Lys Ile His Gly Gln Glu Leu Pro Phe Glu Ala Val Val
 85 90 95

Leu Asn Lys Thr Ser Gly Glu Gly Arg Leu Arg Ala Lys Ser Pro Ile
 100 105 110

Asp Cys Glu Leu Gln Lys Glu Tyr Thr Phe Ile Ile Gln Ala Tyr Asp
 115 120 125

Cys Gly Ala Gly Pro His Glu Thr Ala Trp Lys Lys Ser His Lys Ala
 130 135 140

Val Val His Ile Gln Val Lys Asp Val Asn Glu Phe Ala Pro Thr Phe
 145 150 155 160

Lys Glu Pro Ala Tyr Lys Ala Val Val Thr Glu Gly Lys Ile Tyr Asp
 165 170 175

Ser Ile Leu Gln Val Glu Ala Ile Asp Glu Asp Cys Ser Pro Gln Tyr
 180 185 190

Ser Gln Ile Cys Asn Tyr Glu Ile Val Thr Thr Asp Val Pro Phe Ala
 195 200 205

Ile Asp Arg Asn Gly Asn Ile Arg Asn Thr Glu Lys Leu Ser Tyr Asp
 210 215 220

Lys Gln His Gln Tyr Glu Ile Leu Val Thr Ala Tyr Asp Cys Gly Gln
 225 230 235 240

Lys Pro Ala Ala Gln Asp Thr Leu Val Gln Val Asp Val Lys Pro Val
 245 250 255

Cys Lys Pro Gly Trp Gln Asp Trp Thr Lys Arg Ile Glu Tyr Gln Pro
 260 265 270

Gly Ser Gly Ser Met Pro Leu Phe Pro Ser Ile His Leu Glu Thr Cys
 275 280 285

Asp Gly Ala Val Ser Ser Leu Gln Ile Val Thr Glu Leu Gln Thr Asn
 290 295 300

Tyr Ile Gly Lys Gly Cys Asp Arg Glu Thr Tyr Ser Glu Lys Ser Leu
 305 310 315 320

Gln Lys Leu Cys Gly Ala Ser Ser Gly Ile Ile Asp Leu Leu Pro Ser
 325 330 335

Pro Ser Ala Ala Thr Asn Trp Thr Ala Gly Leu Leu Val Asp Ser Ser
 340 345 350

Glu Met Ile Phe Lys Phe Asp Gly Arg Gln Gly Ala Lys Ile Pro Asp
 355 360 365

Gly Ile Val Pro Lys Asn Leu Thr Asp Gln Phe Thr Ile Thr Met Trp
 370 375 380

Met Lys His Gly Pro Ser Pro Gly Val Arg Ala Glu Lys Glu Thr Ile

385		390		395		400
Leu Cys Asn Ser	Asp Lys Thr Glu Met	Asn Arg His His Tyr Ala Leu				
	405	410			415	
Tyr Val His Asn Cys Arg Leu Val Phe Leu Leu Arg Lys Asp Phe Asp						
	420	425			430	
Gln Ala Asp Thr Phe Arg Pro Ala Glu Phe His Trp Lys Leu Asp Gln						
	435	440			445	
Ile Cys Asp Lys Glu Trp His Tyr Tyr Val Ile Asn Val Glu Phe Pro						
	450	455			460	
Val Val Thr Leu Tyr Met Asp Gly Ala Thr Tyr Glu Pro Tyr Leu Val						
	465	470			475	480
Thr Asn Asp Trp Pro Ile His Pro Ser His Ile Ala Met Gln Leu Thr						
	485	490			495	
Val Gly Ala Cys Trp Gln Gly Gly Glu Val Thr Lys Pro Gln Phe Ala						
	500	505			510	
Gln Phe Phe His Gly Ser Leu Ala Ser Leu Thr Ile Arg Pro Gly Lys						
	515	520			525	
Met Glu Ser Gln Lys Val Ile Ser Cys Leu Gln Ala Cys Lys Glu Gly						
	530	535			540	
Leu Asp Ile Asn Ser Leu Glu Ser Leu Gly Gln Gly Ile Lys Tyr His						
	545	550			555	560
Phe Asn Pro Ser Gln Ser Ile Leu Val Met Glu Gly Asp Asp Ile Gly						
	565	570			575	
Asn Ile Asn Arg Ala Leu Gln Lys Val Ser Tyr Ile Asn Ser Arg Gln						
	580	585			590	
Phe Pro Thr Ala Gly Val Arg Arg Leu Lys Val Ser Ser Lys Val Gln						
	595	600			605	
Cys Phe Gly Glu Asp Val Cys Ile Ser Ile Pro Glu Val Asp Ala Tyr						
	610	615			620	

Val Met Val Leu Gln Ala Ile Glu Pro Arg Ile Thr Leu Arg Gly Thr
 625 630 635 640
 Asp His Phe Trp Arg Pro Ala Ala Gln Phe Glu Ser Ala Arg Gly Val
 645 650 655
 Thr Leu Phe Pro Asp Ile Lys Ile Val Ser Thr Phe Ala Lys Thr Glu
 660 665 670
 Ala Pro Gly Asp Val Lys Thr Thr Asp Pro Lys Ser Glu Val Leu Glu
 675 680 685
 Glu Met Leu His Asn Leu Asp Phe Cys Asp Ile Leu Val Ile Gly Gly
 690 695 700
 Asp Leu Asp Pro Arg Gln Glu Cys Leu Glu Leu Asn His Ser Glu Leu
 705 710 715 720
 His Gln Arg His Leu Asp Ala Thr Asn Ser Thr Ala Gly Tyr Ser Ile
 725 730 735
 Tyr Gly Val Gly Ser Met Ser Arg Tyr Glu Gln Val Leu His His Ile
 740 745 750
 Arg Tyr Arg Asn Trp Arg Pro Ala Ser Leu Glu Ala Arg Arg Phe Arg
 755 760 765
 Ile Lys Cys Ser Glu Leu Asn Gly Arg Tyr Thr Ser Asn Glu Phe Asn
 770 775 780
 Leu Glu Val Ser Ile Leu His Glu Asp Gln Val Ser Asp Lys Glu His
 785 790 795 800
 Val Asn His Leu Ile Val Gln Pro Pro Phe Leu Gln Ser Val His His
 805 810 815
 Pro Glu Ser Arg Ser Ser Ile Gln His Ser Ser Val Val Pro Ser Ile
 820 825 830
 Ala Thr Val Val Ile Ile Ile Ser Val Cys Met Leu Val Phe Val Val
 835 840 845

Ala Met Gly Val Tyr Arg Val Arg Ile Ala His Gln His Phe Ile Gln
850 855 860

Glu Thr Glu Ala Ala Lys Glu Ser Glu Met Asp Trp Asp Asp Ser Ala
865 870 875 880

Leu Thr Ile Thr Val Asn Pro Met Glu Lys His Glu Gly Pro Gly His
885 890 895

Gly Glu Asp Glu Thr Glu Gly Glu Glu Glu Glu Ala Glu Glu Glu
900 905 910

Met Ser Ser Ser Ser Gly Ser Asp Asp Ser Glu Glu Glu Glu Glu
915 920 925

Glu Gly Met Gly Arg Gly Arg His Gly Gln Asn Gly Ala Arg Gln Ala
930 935 940

Gln Leu Glu Trp Asp Asp Ser Thr Leu Pro Tyr
945 950 955

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Ala Ala Gln Pro Gln Phe Val His Pro Glu His Arg Ser Phe Val Asp
1 5 10 15

Leu Ser Gly His Asn Leu Ala Asn Pro His Pro
20 25

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Ala Ala Gln Pro Gln Phe Val His Pro Glu His Arg Ser Phe Val Asp
1 5 10 15

Leu Ser Gly His Asn Leu Ala Asn Pro His Pro Phe
20 25

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Ala Ala Gln Pro Gln Phe Val His Pro Glu His Arg Ser Phe Val Asp
1 5 10 15

Leu Ser Gly His Asn Leu Ala Asn Pro His Pro Phe Ala Val Val Pro
20 25 30

Ser Thr Ala Thr
35

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Phe Val His Pro Glu His Arg Ser Phe Val Asp Leu Ser Gly His Asn
1 5 10 15

Leu Ala Asn Pro His Pro
20

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Phe Val His Pro Glu His Arg Ser Phe Val Asp Leu Ser Gly His Asn
1 5 10 15

Leu Ala Asn Pro His Pro Phe
20

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Phe Val His Pro Glu His Arg Ser Phe Val Asp Leu Ser Gly His Asn
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Leu Ala Asn Pro His Pro Phe Ala Val Val Pro Ser Thr Ala Thr
 20 25 30

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Asn Pro His Pro
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Asn Pro His Pro Phe
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Asn Pro His Pro Phe Ala Val Val Pro Ser Thr Ala Thr
 1 5 10

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Ile Ser Glu Val Lys Met Asp Ala Glu Phe Arg His Asp Ser Gly Tyr
 1 5 10 15

Glu Val His His Gln Lys Leu Val Phe Phe Ala Glu Asp Val Gly Ser
 20 25 30

Asn Lys Gly Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Ile Ala
 35 40 45

Thr Val Ile Val Ile Thr Leu Val Met Leu Lys Lys Lys Gln Tyr Thr
 50 55 60

Ser Ile His His Gly Val Val Gln Asn
 65 70

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Ala Ala Gln Pro Gln Phe Val His Pro Glu His Arg Ser Phe Val Asp
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Leu Ser Gly His Asn Leu Ala Asn Pro His Pro Phe Ala Val Val Pro
 20 25 30

Ser Thr Ala Thr Val
 35

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Ala Ala Gln Pro Gln Phe Val His Pro Glu His Arg Ser Phe Val Asp
 1 5 10 15

Leu Ser Gly His Asn Leu Ala Asn Pro His Pro Phe Ala Val Val Pro
 20 25 30

Ser Thr Ala Thr Val Val
 35

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Leu Ser Gly His Asn Leu Ala Asn Pro His Pro Phe Ala Val Val Pro
 20 25 30

Ser Thr Ala Thr Val Val Ile
 35

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Ala Ala Gln Pro Gln Phe Val His Pro Glu His Arg Ser Phe Val Asp
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Leu Ser Gly His Asn Leu Ala Asn Pro His Pro Phe Ala Val Val Pro
 20 25 30

Ser Thr Ala Thr Val Val Ile Val
 35 40